CONTENTS OF VOLUME IX.

NUMBER XXV.

Page.

Art. I. Experiments on the Electricity of a Plate of Zinc buried in the Earth; by Prof. ELIAS LOOMIS, - - - - - 1

II. Geology of Canada, - - - - - - - - - 12

III. Ash Analyses; by JNO. A. PORTER, - - - - - - 20

IV. A Product of the action of Nitric Acid on Woody Fibre; by JNO. A. PORTER, - - - - - - - - - 20

V. On the Navicula Spencerii; by WARREN DE LA RUE, - 23

VI. Caricography; by Prof. C. DEWEY, - - - - - 29

VII. On the Nitrates of Iron and some other Nitrates; by JOHN M. ORDWAY, - - - - - - - - - - - 30

VIII. A description of two additional Crania of the Engé-ena, (Troglodytes gorilla, Savage,) from Gaboon, Africa; by JEFFRIES WYMAN, M.D., - - - - - - - - 34

IX. Notice of the cranium of the Ne-hoo-le, a new species of Manatee (Manatus nasutus) from W. Africa; by JEFFRIES WYMAN, M.D., - - - - - - - - - - 45

X. On Denudation in the Pacific; by JAMES D. DANA, - - 48

XI. Remarks on the Constitution of Leucine, with critical observations upon the late Researches of M. Wutz; by T. S. HUNT, 63

XII. On Perfect Musical Intonation, and the fundamental Laws of Music on which it depends, with remarks showing the practicability of attaining this Perfect Intonation in the Organ; by HENRY WARD POOLE, - - - - - - 68

XIII. Analyses of several Minerals; by WILLIAM FISHER, - 83

XIV. Memorials of John Bartram and Humphry Marshall, with notices of their Botanical Contemporaries, by WM. DARLINGTON, M.D., LL.D., - - - - - - - - - 85

XV. Vibrations of Trevelyan's bars by the Galvanic Current; by Prof. CHAS. G. PAGE, - - - - - - - - 105

XVI. On four new species of Hemiptera of the genus Ploiaria, Chermes, and Aleurodes, and two new Hymenoptera, parasitic in the last named genus; by S. S. HALDEMAN, - - 108

SCIENTIFIC INTELLIGENCE.

Chemistry and Physics—On the comparative Cost of making various Voltaic Arrangements, by Mr. W. S. Ward: Researches on Wax, by Benjamin Collins Brodie, 111.—On the Phosphoric Ethers, by F. Vögeli, 113.—On the Estimation of Nitrous acid, by H. Schwarz: New mode of preparing Nitrogen, by B. Corenwinder: New Process for detecting Iodine and Bromine, by M. A. Reynoso, 114.—On the amount of Ammonia contained in the Atmosphere, by M. Fresenius: On the varieties of Chloroform, by MM. Soubeiran and Mialhé, 115.—On the Composition of Shea Butter and Chinese Vegetable Tallow, by Dr. R. T. Thomson, and Mr. E. T. Wood: On the occurrence of Butyric Acid in the Fruit of the Soap tree, by Dr. von Gorup Besanez, 116. —On the preparation of Hyposulphite of Soda, by M. Faget: On the amount of Lime in Lime Water, by M. Wittstein: On the preparation of Succinic acid from Malate of lime, by Liebig, 117.—Chemical Analysis of a Calculus from the bladder of a whale, by William Keller, M.D.: On the presence of Fluorine in the Waters of the Firth of Forth, the Firth of Clyde, and the German Ocean, by G. Wilson, M.D., 118.—On the Artificial Production of certain Crystallized Minerals, particularly Oxyd of Tin, Oxyd of Titanium, and Quartz, by M. A. Daubrée, 120.—On the Origin of the Titaniferous veins of the Alps, 122.

Mineralogy and Geology.—Analysis of Schuylkill Water, by M. H. Boyé: On Acid and Alkaline Springs, by Prof. W. B. Rogers, 123.—On Reptilian footmarks in the gorge of the Sharp Mountain near Pottsville, Pa., by Isaac Lea, 124.—Gold on the farm of Samuel Elliot, Montgomery County, Md.: Gold of California, 126.

Botany and Zoology.—Description of a Nut found in Eocene marl, by Edmund Ruffin, 127.—Synopsis Generum Crustaceorum Ordinis Schizopoda J. D. Dana elaboratus, 129.—Eyes of Sapphirina, Corycæus, etc., by J. D. Dana: Contributions to Conchology, Nos. 1–4; and Monograph of Stoastoma, a new genus of new operculated land shells, by Prof. C. B. Adams, 133.—Eryx maculatus, a new species from Madras, by Edward Hallowell, M.D.: Descriptions of four new species of North American Salamanders, and one new species of Scink, by Prof. Spencer F. Baird, 137.—On Infusorial Deposits on the River Chutes in Oregon, by M. Ehrenberg: On the Fossil American Tapir, by Joseph Leidy, M.D., 140.

Astronomy.—On Nebulæ observed with Rosse's Telescope, 140.—A Model of the Moon's surface, 143.

Miscellaneous Intelligence.—Meteorite in North Carolina, 143.—Further Contributions to Anemometry, by Prof. Phillips, 146.—Discovery of another huge reptile by Dr. Mantell: Collossal Birds of New Zealand: Cabinet of Geology and Mineralogy for sale: Correction, 147.

Bibliography.—Endlicher, Generum Plantarum Supplementum Quartum; Pars II, 148.—Contributions to the History of British Fossil Mammals (first series), by Richard Owen, F.R.S., 149.—Iconographic Encyclopædia, by C. Heck, translated and edited by Prof. S. F. Baird: The Astronomical Journal, edited by Benjamin Apthorp Gould, Jr.: Foster's Complete Geological Chart, 151.—American Almanac and Repository of Useful Knowledge, for the year 1850, 152.

List of Works, 152.

NUMBER XXVI.

Page.

Art. XVII. On the Phantascope; by Prof. J. Locke, - - 153

XVIII. The condition of Trap dikes in New Hampshire an evidence and measure of Erosion; by Professor Oliver P. Hubbard, M.D., - - - - - - - - - - 158

XIX. Contributions to the Mycology of North America; by Rev. M. J. Berkeley, of England, and Rev. M. A. Curtis, of South Carolina, - - - - - - - - - - 171

XX. Connection between the Atomic weights and the physical and chemical properties of Barium, Strontium, Calcium and Magnesium, and some of their Compounds; by Professor E. N. Horsford, - - - - - - - - - 176

XXI. On the American Prime Meridian; by Prof. J. Lovering, 184

XXII. On Perfect Musical Intonation, and the fundamental Laws of Music on which it depends; with remarks showing the practicability of attaining this Perfect Intonation in the Organ; by Henry Ward Poole, - - - - - - - 199

XXIII. On the new American Mineral, Lancasterite; by Professor B. Silliman, Jr., - - - - - - - - - 216

XXIV. Table of Atomic Weights, - - - - - - - 217

XXV. On the Isomorphism and Atomic Volume of some Minerals; by James D. Dana, - - - - - - - - 220

XXVI. Observations on the Size of the Brain in various Races and Families of Man; by Samuel George Morton, M.D., 246

XXVII. Remarks on the Aneroid Barometer; by Professor J. Lovering of Harvard University, - - - - - 249

XXVIII. An account of some Fossil Bones found in Vermont, in making excavations for the Rutland and Burlington Railroad; by Zadock Thompson, - - - - - - 256

XXIX. Abstract of a Meteorological Journal, kept at Marietta, Ohio, for the year 1849, by S. P. Hildreth, M.D., - - 264

XXX. Chemical Examinations of the Waters of some of the Mineral Springs of Canada, by T. S. Hunt, - - - - - 266

SCIENTIFIC INTELLIGENCE.

Chemistry and Physics.—Researches upon some derivatives of the Benzoic Series, by G. Chancel, 275.—On the Products of the dry distillation of Benzoate of Lime, by G. Chancel, 276.—On the Action of Nitric Acid upon Butyrone, Laurent and Chancel: On Sulphuretted Benzamid, by A. Cahours: On the Composition of Chloropicrine, by A. Cahours, 278.—Process for the use of Tin Plate Scrap in the Manufacture of Malleable Iron, by Ed. Schunck: Anisole, Salicylic Ether, and substances derived from them, by A. Cahours, 279.—On the Compound Ammonias, by Adolphe Wurtz, 281.—On a Cop-

per Amalgam, by Dr. PETTENKOFER, 282.—Benzole, by C. B. MANSFIELD: On the Separation of Phosphoric Acid from Alumina, by H. ROSE, 283.—On the Atomic Weight of Silica, by H. KOPP, 284.—On the Extraction of Mannite from the Dandelion, by Messrs. SMITH, 285.

Mineralogy and Geology.—On Danburite, by J. D. DANA, 286.—On the discovery of Sulphuret of Nickel in Northern New York, by Dr. FRANKLIN B. HOUGH, A.M., 287.—New Mineral Localities in New York, by Dr. F. B. HOUGH, 288.—A list of the Minerals associated with the Emery of Asia Minor, by J. LAWRENCE SMITH: On the Degradation of the Rocks of New South Wales and Formation of Valleys, by J. D. DANA, 289.

Zoology.—Report on Zoophytes, by JAMES D. DANA, 294.—A new genus of Orchestidæ, by J. D. DANA: On the genus Astræa, by JAMES D. DANA, 295.

Miscellaneous Intelligence—On the Extraction of Gold from the Copper Ores of Chessy and Sain-Bel, by Messrs. ALLAIN and BARTENBACH, 297.—The Table Land of Thibet, 298.—On the Classification of Colors, Part II, by Prof. J. D. FORBES, 300.—New Process for extracting Sugar from the Sugar-cane, by M. MELSENS, 301.—Anniversary of the Royal Society of London: Ray Society: Zoological Gardens: Mastodon angustidens: Development of Electricity by Muscular Contraction, 304.—Influence of boracic acid in Vitrification, 305.—*Obituary.*—Dr. Martin Gay, 305.

Bibliography.—Report of a Geological Reconnoissance of the Chippewa Land District of Wisconsin, and, incidentally, of a portion of the Kickapoo Country, and of a part of Iowa and of the Minesota Territory, by DAVID DALE OWEN, 306.—The Races of Man and their Geographical Distribution, by CHARLES PICKERING, M.D., 307.—Elements of Natural Philosophy, by ALONZO GRAY, A.M.: Sailing Directions, by Lieut. M. F. MAURY, U.S.N., 308.—The Plough, the Loom and the Anvil, T. S. SKINNER, Editor: Iconographic Encyclopædia of Science, Literature and Art, by G. HECK, translated and edited by Prof. SPENCER F. BAIRD: Foster's Geological Chart: The Annual of Scientific Discovery, or Year Book of Facts in Science and Art, edited by DAVID A. WELLS, and GEORGE BLISS, Jr.; Agassiz's Lake Superior: The Astronomical Journal, 309.—Journal of the Academy of Natural Sciences of Philadelphia, 310.—Memoirs of the American Academy of Arts and Sciences, 311.—Boston Journal of Natural History, Vol. VI, No. 1, 312.

List of Works, 312.

NUMBER XXVII.

Page.

ART. XXXI. A brief Memoir of the late Walter Folger, of Nantucket; by WILLIAM MITCHELL, - - - - - - 313

XXXII. On the Application of Photography to the Self-registration of Magnetical and Meteorological Instruments; by Capt. J. H. LEFROY, R.A., F.R.S., - - - - - - - - 319

XXXIII. Influence of the known Laws of Motion on the expansion of Elastic Fluids; by ELI W. BLAKE, - - - - 334

XXXIV. On the Rotation of the Plane of Polarization of Heat by Magnetism; by MM. F. DE LA PROVOSTAYE and P. DESAINS, 344

XXXV. Historical account of the Eruptions on Hawaii; by JAMES D. DANA, - - - - - - - - - - - 347

Page.

XXXVI. On the Chemical Equivalents and Notation of Laurent and Gerhardt; by CHARLES GERHARDT, - - - - - 364

XXXVII. The Natural Relations between Animals and the Elements in which they live; by L. AGASSIZ, - - - - 369

XXXVIII. On a new Analogy in the Periods of Rotation of the Primary Planets, discovered by Daniel Kirkwood, - - - 395

XXXIX. On the so-called Biogen Liquid; by CHARLES GIRARD, 399

XL. Note on Heteronomic Isomorphism; by JAMES D. DANA, 407

XLI. On some Minerals recently investigated by M. Hermann; by J. D. DANA, - - - - - - - - - - - 408

XLII. On the Interpretation of Mariotte's Law; by Lieut. E. B. HUNT, - - - - - - - - - - - 412

SCIENTIFIC INTELLIGENCE.

Chemistry and Physics.—On the Deportment of Crystalline Bodies between the poles of a Magnet, by JOHN TYNDALL and HERMANN KNOBLAUCH, 414.—Arsenic in the deposit from Mineral Waters, by M. J. L. LASSAIGNE: On the reduction of Chlorid of Silver, by M. WITTSTEIN, 418.—On the Chemical Composition of the Fluid in the Ascidia of Nepenthes, by Dr. A. VOELCKER: Chlorine and Oxygen from Chlorate of Potash, by Dr. VOGEL: Action of Potash upon Caffeine, by A. WURTZ: Separation of Butyric, Valerianic and Acetic Acids, by J. LIEBIG, 419: On the Production of Organic bases from Vegetable substances containing Nitrogen, by Dr. J. STENHOUSE, 420.—Preparation of Hydrobromic and Hydriodic Acids, by E. H. MÈNE: Passage of Hydrogen Gas through solid bodies, by M. LOUYET: On the presence of Silver, Lead and Copper in Sea-water, and in Plants and Animals, by MM. MALAGUTI, DUROCHER and SARSEAU, 421.—Ruthenium, 422.

Mineralogy and Geology.—Description of the Vermiculite of Milbury, Mass., by Dr. C. T. JACKSON, with an analysis by Mr. RICHARD CROSSLEY, 422.—On the Blowpipe characters of the Mineral from the Azores identified with Pyrrhite by J. E. Teschemacher, by A. A. HAYES, 423.—On the Red Zinc Ore of New Jersey, by A. A. HAYES: On the existing Mineral Localities of Lewis, Jefferson, and St. Lawrence counties, New York, by Dr. F. B. HOUGH, 424.—Isomorphism of Miargyrite and Augite: Analysis of the Schorlomite of Shepard, by C. RAMMELSBERG, 429.—Large crystals of Sphene: On the Ozarkite of Shepard, by J. D. DANA, 430.—The Lagoons of Tuscany, 431.—On the Great Diamond in the possession of the Nizam, by HENRY PIDDINGTON, 434.—An account of the Strata and Organic Remains exposed in the Cuttings of the Railway from the Great Western line near Corsham, through Trowbridge to Westbury in Wiltshire, by REGINALD NEVILLE MANTELL, Esq., 436.—Notice of the Remains of the Dinornis and other Birds, and of Fossil and Rock specimens recently collected by Walter Mantell, Esq., from the Middle Island of New Zealand, by G. A. MANTELL, Esq., LL.D., F.R.S., &c., 437.

Zoology.—Supplementary Observations on the Structure of the Belemnite and Belemnoteuthis, by GIDEON ALGERNON MANTELL, Esq., LL.D., F.R.S., &c., 438.—On the Pelorosaurus; an undescribed gigantic terrestrial reptile, whose remains are associated with those of the Iguanodon and other Saurians, in the Strata of Tilgate Forest, by GIDEON ALGERNON MANTELL, Esq., LL.D., F.R.S.,

&c., 439.—On Entophytes, by Dr. LEIDY, 441.—On Infusoria on the Teeth, by H. I. BOWDITCH, 442.

Astronomy.—New Comet: Expected return of the great Comet of 1556, 442.

Miscellaneous Intelligence.—On the Gradual Production of Luminous Impressions on the Eye, and other phenomena of Vision, by WILLIAM SWAN, F.R.S.E., 443.—Foster's Geological Chart: Lefroy on the Application of Photography to the Self-registration of Magnetical and Meteorological Instruments, 444.—On the Cause of the Diurnal Variations of the Magnetic Needle, by W. H. BARLOW, Esq., M.I.C.E., 445.—The Ruins of Nineveh, 447.—Oak Orchard Acid Spring Water, by H. ERNI, and WM. I. CRAW, 449.—On the Cause of Auroræ Boreales, by AUGUSTE DE LA RIVE, 450.—Charleston Meeting of the American Association for the Advancement of Science, 453.

Bibliography.—Proceedings of the American Association for the Advancement of Science: The Annual of Scientific Discovery, or Year Book of Facts in Science and Arts, &c.; edited by DAVID A. WELLS and GEORGE BLISS, Jr.: The Physical Atlas of Natural Phenomena, by ALEXANDER KEITH JOHNSTON, 454.—Lake Superior, its Physical Character, Vegetation and Animals, compared with those of other and similar Regions, by LOUIS AGASSIZ, with a narrative of the Tour, by J. ELLIOT CABOT, 455.—A Natural Scale of Heights, &c., constructed by Miss COLTHURST: The East; Sketches of Travel in Egypt and the Holy Land, by Rev. J. A. SPENCER, M.A.: Man Primeval, or the Constitution and Primitive condition of the human being, &c., by JOHN HARRIS, D.D.: A Systematic Treatise, Historical, Etiological and Practical, on the Principal diseases of the Interior valley of North America; as they appear in the Caucasian, African, Indian and Esquimaux varieties of its Population, by DANIEL DRAKE, M.D., 456.—Transactions of the Society of Arts for 1846–7 and 1847–8: A Universal Formulary, containing the Method of preparing and administering officinal and other Medicines, the whole adapted to Physicians and Pharmaceutists, by R. EGGLESFELD GRIFFITH, M.D., 457.

List of Works, 458.

Index, 459.

ERRATA.

Page 4, line 11 from bottom, for 'zinc,' read 'wire.'
P. 20, " 15 " top, for 'acid in chlorine,' read 'acid and chlorine.'
P. 63, " 2 " top, for 'Wutz,' read 'Wurtz.'
P. 218, " 6 " bottom, for '1227·75,' read '1227·45,' and erase first half of next line.
P. 286, " 22 " top, for '2·97,' read '2·957.'
P. 286, " 17 " bottom, for 'soda,' read 'potash.'
P. 407, " 13 " top, for "Pseudomorphism," read "Isomorphism."
P. 419, bottom line, for 'soda, or the,' read 'soda, and the.'

Vol. VIII, page 379, line 15 from top, for 'Chester Co.,' read 'Delaware Co.'
" p. 383, in table, analysis 2, for 'Emerylite, Pennsylvania,' read 'Margarite.'
" " " " 3, " 'Margarite,' read 'Emerylite.'
" " " second part, for the numbers of the analyses, 1, 2, 3, 4, 5, substitute, 1, 3, 4, 5, 2.
" p. 387, in formula of Kyanite, for '$\dot{A}l^2\,\ddot{S}i^3$,' read '$\dot{A}l^3\,\ddot{S}i^2$.'
" p. 387, line 23 from top, for '775·5,' read '·7755.'